

Application Serial No. 10/750580
Amendment dated March 10, 2006
Reply to Office Action dated December 12, 2005

Remarks/Arguments

This amendment is in response to a non-final office action dated December 12, 2005. Claim 1 was rejected under 35 USC 102(b) as being anticipated by Higashi et al. (5,895,233) or under 35 USC 102(e) as being anticipated by Hays et al. (6,252,229). One feature of claim 1 that the applicant intended to distinguish from related art (including the cited art) is a recess formed in the first surface of the first wafer within a second perimeter which is situated within the first perimeter. To clarify the applicant's intended feature of claim 1, the claim is amended to clarify the feature indicating "a recess formed in the first surface of the first wafer between the first perimeter and~~in~~ a second perimeter situated within the first perimeter for a window situated within the second perimeter." Neither Higashi et al. or Hayes et al. appear to have such a recess in a perimeter surrounding an area for a window.

Claim 2 was rejected under 35 USC 102(e) as being anticipated by Cole (6,627,892). In the same manner, as noted relative to Higashi et al. and Hayes et al., the applicant intended a recess to be around a perimeter of the window area, which does not appear to be around a perimeter of window area 131 of Cole.

Claims 3-4 were rejected under 35 USC 103(a) as being unpatentable over Higashi et al. in view of Banish et al. (2002/0135869).

As to claim 3, the Examiner indicated that Higashi et al. disclose the invention including antireflective patterns (reference numbers 13 and 14 in Figure 3) on both surfaces of

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the first substrate. The Examiner added that missing in Higashi et al. is a bump pattern used as antireflective pattern to which Banish et al. are indicated to disclose a bump pattern that can be used as an antireflective pattern. The Examiner indicated that a person skilled in the art at the time of the invention was made, would have been motivated to improve the Higashi et al. device by using the teachings by Banish et al. to get superior transmission values and cheap manufacturing. In Higashi et al., the antireflective mechanism is a layer of a particular material composition. The Higashi et al. antireflective mechanism is not a pattern but rather a film or coating of a particular material composition of which Higashi et al. indicate that substances are used for antireflective coatings. (Col. 2, lines 53-56; col. 3, lines 43-46.) No mention of patterns appears to be present in Higashi et al. The antireflective structure in Banish et al. may indicate transmission values for one surface structure. It does indicate disadvantages of traditional coatings [0005, 0010] thereby implying a clear distinction between the coatings of Higashi et al. and the pattern of Banish et al. In this light, it doesn't seem obvious to substitute an antireflective coating with an element quite different, advantageous or not. If that were the case, then one might argue that any antireflective mechanism would be substitutable for the coating so as to show obviousness. It is not clear that such a different antireflective mechanism would be workable in the Higashi et al. structure. As to claim 3, even though Banish et al. indicate high transmission values (Abstract) for one antireflective

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structure pattern, and Higashi et al. may discuss two antireflective coatings of films, they do not indicate having a second pattern on the same wafer or substrate with its significant resultant advantages (e.g., the surprising transmissive increase) as the present invention does. With just one of the patterns or elements 12 and 14, the transmissiveness of the wafer or substrate 11 may be about only 70 percent. In the present invention, with both elements 12 and 14, the transmissiveness of the wafer 11 may increase dramatically to 90 percent or greater (p. 8. lines 11-13).

The Examiner rejected claim 4 relative to Higashi et al. and then in view of Banish et al. As to this claim, it means that the intended space of the package is sealed from the external environment. This claim may depend from an allowable claim.

Claims 5-6 were rejected by the Examiner as discussed in the rejection of claim 3 with the combined teachings of Higashi et al. and Banish et al. The Examiner added Jerominek et al. as teaching the construction of the package with a seal using a spacer and bondable material. These claims may depend from an allowable claim.

The Examiner objected to claims 7-9 as being dependent on a rejected base claim. The applicant appreciates the allowability of these claims.

Claim 1 is amended for further clarification of the recess. Objected-to claims 7-9 are rewritten as claims 31-33 in conformance with the office action for allowability.

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Claim 34 is the original claim 1 plus the structural supports in the recess of the first wafer. Claims 35-39 are similar to claims 4, 8, 2, 3 and 9, respectively.


Claim 40 is the original claim 1 plus claim 3 which is a first bump pattern on a second surface of the first wafer. This bump pattern is situated on the outside surface of the first wafer. The bump pattern in Cole is on the inside surface of the wafer which appear to involve more difficult fabrication of the package. Claims 41-45 are similar to claims 3, 7, 8, 2 and 9, respectively.

Claim 46 is an amended claim 1 with a pumpout opening. Claims 47, 48, 49, 50 and 51 are similar to claims 7, 2, 3, 4 and 9, respectively.

Consideration and allowance of the pending claims are very respectfully requested.

Respectfully submitted,

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